

PATENT ABSTRACTS OF JAPAN

(11)Publication number : 11-292310

(43)Date of publication of application : 26.10.1999

(51)Int.Cl.

B65H 1/26

B41J 13/00

B65H 1/04

(21)Application number : 10-102958

(71)Applicant : FUJI PHOTO FILM CO LTD

(22)Date of filing : 14.04.1998

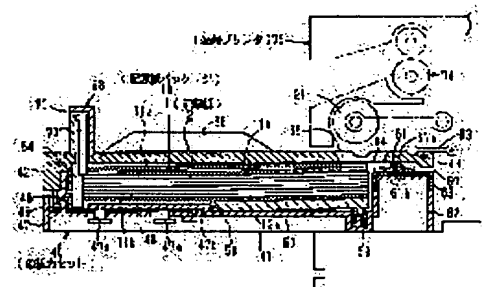
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(54) PAPER SUPPLY CASSETTE

(57)Abstract:

PROBLEM TO BE SOLVED: To keep the light shading property and the moisture proof property and eliminate the multiple feed of recording sheets.

SOLUTION: This paper supply cassette 40 is constituted of a cassette main body 41 and an upper lid 42. A recording paper package 10 is loaded in a loading part of the cassette main body 41. A roller opening 65 is formed in the upper lid 42. A movable bottom plate 57 is provided on a bottom plate 48 in the loading part, and a recording paper 12 is energized on a roller opening 65 side. A recording paper separation part 62 protrudes and is formed in a paper supply passage close to a paper supply port 60. A separation protrusion 64 is provided in the recording paper separation part 62 to prevent the multiple feed of recording papers 12. The recording paper 12 is energized so as to adhere closely so that the moisture proof property and the light shading property of a recording surface are improved. It is unnecessary to open the lid 42 to supply paper, and a paper supply cassette 40 can be simply attached to a printer 75.



LEGAL STATUS

[Date of request for examination]

04.08.2004

[Date of sending the examiner's decision of rejection]

[Kind of final disposal of application other than the examiner's decision of rejection or application converted registration]

[Date of final disposal for application]

[Patent number]

[Date of registration]

[Number of appeal against examiner's decision of rejection]

[Date of requesting appeal against examiner's decision of rejection]

[Date of extinction of right]

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CLAIMS

[Claim(s)]

[Claim 1] The body of a cassette which has the loading section by which two or more sheets of recording papers by which the laminating was carried out to the thermal printer in the sheet paper cassette which supplies the recording paper are contained, The lid attached in the body of a cassette free [closing motion], and insertion opening of the feed roller formed in the lid or the body of a cassette, The sheet paper cassette characterized by having a recording paper energization means to energize the recording paper to the insertion opening side of a feed roller, and feed opening for feeding the recording paper of the maximum upper layer energized with the recording paper energization means to said thermal printer.

[Claim 2] The body of a cassette which has the loading section by which two or more sheets of recording papers by which the laminating was carried out to the thermal printer in the sheet paper cassette which supplies the recording paper are contained, The lid attached in the body of a cassette free [closing motion], and the feed roller formed in the lid or the body of a cassette, The sheet paper cassette characterized by having a recording paper energization means to energize the recording paper to this feed roller side, and feed opening for feeding the recording paper of the maximum upper layer energized with the recording paper energization means to said thermal printer.

[Claim 3] The sheet paper cassette according to claim 1 or 2 characterized by preparing the multiplex delivery inhibition member to which the head of the recording paper after the 2nd sheet contacts said feed opening from the maximum upper layer.

[Claim 4] The sheet paper cassette according to claim 3 characterized by forming said feed opening in the doubling section of the body of a cassette, and a lid, arranging said multiplex delivery inhibition member to the body side of a cassette within this feed opening, arranging a protection-from-light member to a lid side, constituting from an elastic plate which bent the protection-from-light member in the shape of a wave, making the bending section of an elastic plate contact a multiplex delivery inhibition member side, and closing feed opening.

[Claim 5] It is a sheet paper cassette claim 1 which said loading section is loaded with the detail-paper package which contained two or more sheets of detail paper by which the laminating was carried out on the package object, and is characterized by to equip said package object with feed opening prepared in the location corresponding to feed roller insertion opening, and the bottom plate which the edge by the side of feed opening raised with said detail-paper energization means, and was made free thru/or given in any 4one.

[Claim 6] Said package object is made into the core box which consists of the 5th page formed with the superior lamella, the bottom plate, the end plate, and the both-sides plate. When form in the perimeter of this package object the notch which attains to a superior lamella and a bottom plate, a package object is made larger than said recording paper, the recording paper is loosely contained to the package inside of the body and the loading section is loaded with a package object The sheet paper cassette according to claim 5 characterized by preparing the guide member inserted into this notch in the loading section, and positioning the recording paper by this guide member.

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DETAILED DESCRIPTION

[Detailed Description of the Invention]

[0001]

[Field of the Invention] This invention relates to the sheet paper cassette used for a thermal printer.

[0002]

[Description of the Prior Art] There are a thermal printer and a thermal transfer printer in a thermal printer, and the recording paper of dedication is used for it, respectively. As for the recording paper for thermal printers, the cyanogen sensible-heat coloring layer, the Magenta sensible-heat coloring layer, and the yellow sensible-heat coloring layer are ****(ed) one by one on the base material. And optical fixation is performed, in case heat record is performed sequentially from a surface sensible-heat coloring layer and heat record is carried out at the following sensible-heat coloring layer. This optical fixation irradiates the ultraviolet rays of a wavelength region peculiar to each sensible-heat coloring layer etc., makes coloring capacity lose, and it is performed in order to prevent coloring again, in case the already recorded sensible-heat coloring layer is heat record of the following sensible-heat coloring layer. Since a coloring property is affected when it puts also under the usual light source for a long time, the recording paper for these thermal printers is supplied, after it was contained by the protection-from-light bag and this has been further contained by the carton.

[0003] On the other hand, a thermal transfer printer uses the exclusive paper which there is a sublimation mold which the recording paper is made to sublimate or diffuse about melting or the melting mold which is made to soften and is imprinted on the recording paper, and the color of an ink film, and coated the recording paper for idye sublimation printers with the ink of an ink film by polyester system resin using coated paper with smooth nature high on the recording paper for melting mold printers. The recording paper for these thermal transfer printers is supplied, after the laminating of two or more sheets was carried out, it was contained by the moisture-proof bag and this has been further contained by the carton.

[0004]

[Problem(s) to be Solved by the Invention] In case a printer is loaded with the detail paper, a package bag is opened first, a detail-paper package is taken out, and a sheet paper cassette is loaded with this. And this sheet paper cassette is set to a printer. Thus, the recording paper is fed to a printer through a sheet paper cassette. He arranges airtight sponge etc. in the contact section of the body of a cassette, and a lid, and is trying for the contained recording paper not to become damp with this sheet paper cassette in it so that it may be indicated by JP,9-132330,A, for example.

[0005] However, at the above-mentioned sheet paper cassette, by the state of preservation which shut the lid, although perfect sealing nature is maintained, when feeding paper, a lid must be opened and there is a problem that dampproofing falls. And since feeding is performed where the laminating of the recording paper is only carried out, multiplex delivery by which not only the recording paper of the maximum upper layer but the recording paper under it will be conveyed together may occur. This multiplex delivery is generated not only with a thermographic recording paper but with the recording paper for hot printing.

[0006] This invention aims at offering the sheet paper cassette which also lost multiplex delivery, holding protection-from-light nature and dampproofing.

[0007]

[Means for Solving the Problem] In order to attain the above-mentioned object, a sheet paper cassette according to claim 1 The body of a cassette which has the loading section by which two or more sheets of recording papers by which the laminating was carried out are contained, The lid attached in the body of a cassette free [closing motion], and feed roller insertion opening prepared in the lid or the body of a cassette, It has a recording paper energization means to energize the recording paper to a feed roller

insertion opening side, and feed opening for feeding the recording paper of the maximum upper layer energized with the recording paper energization means to said thermal printer.

[0008] Moreover, a sheet paper cassette according to claim 2 is equipped with the body of a cassette which has the loading section by which two or more sheets of recording papers by which the laminating was carried out are contained, the lid attached in the body of a cassette free [closing motion], the feed roller formed in the lid or the body of a cassette, a recording paper energization means energize the recording paper to this feed roller side, and feed opening for feeding the recording paper of the maximum upper layer energized with the recording paper energization means to said thermal printer.

[0009] In addition, it is desirable to prepare the multiplex delivery inhibition member to which the head of the recording paper after the 2nd sheet contacts said feed opening from the maximum upper layer.

Moreover, it is desirable to form said feed opening in the doubling section of the body of a cassette and a lid, to arrange said multiplex delivery inhibition member to the body side of a cassette within this feed opening, to arrange a protection-from-light member to a lid side, to constitute from an elastic plate which bent the protection-from-light member in the shape of a wave, to make the bending section of an elastic plate contact a multiplex delivery inhibition member side, and to close feed opening.

[0010] Said loading section is loaded with the detail-paper package which contained two or more sheets of detail paper by which the laminating was carried out on the package object, and, as for said package object, it is desirable to have feed opening prepared in the location corresponding to feed roller insertion opening and the bottom plate which the edge by the side of feed opening raised with said detail-paper energization means, and was made free. Said package object is made into the core box which consists of the 5th page formed with the superior lamella, the bottom plate, the end plate, and the both-sides plate. When form in the perimeter of this package object the notch which attains to a superior lamella and a bottom plate, a package object is made larger than said recording paper, the recording paper is loosely contained to the package inside of the body and the loading section is loaded with a package object. It is desirable to prepare the guide member inserted into this notch in the loading section, and to position the recording paper by this guide member.

[0011]

[Embodiment of the Invention] In drawing 2 and drawing 3, the package object 11 of the detail-paper package 10 consists of long fiber, and is formed in thin box-like one with thick non-toilet paper. Since the non-toilet paper of long fiber is used and generating of scraps etc. is suppressed at the time of the cut, or the time of feeding, it does not have an adverse effect on a print.

[0012] As shown in drawing 4, where the 20-sheet laminating of the recording paper 12 of a sensible-heat mold is carried out in the condition of having turned the base material up and having turned the sensible-heat coloring side down, it is contained in this package object 11. In addition, in the case of the recording paper thick [for a seal print], ten sheets are contained. Protection sheet 12a is arranged at the recording paper 12 bottom of the lowest layer. Since a laminating is carried out so that protection sheet 12a may be stuck to the thermal recording side of the recording paper 12, it is prevented that light and moisture trespass upon a thermal recording side. In addition, this protection sheet 12a may omit.

[0013] As shown in drawing 5, the detail-paper package 10 is put in and sold to the storage bag 13 which has protection-from-light nature and dampproofing, and it is opened by cutoff section 13a of a storage bag 13 being broken along with a perforated line 14 at the time of an activity. Moreover, in order to contain again the detail-paper package 10 in the middle of an activity, near the open obturation 13b of a storage bag 13, the fastener 15 made of synthetic resin is formed. A fastener 15 consists of 1 set of fitting protruding lines as everyone knows, and it is sealed because one male protruding line fits into the female mold protruding line of another side. In addition, it is that the sign 16 in drawing shows the hanging hole, and the hook 17 for hanging is inserted in this hole 16, and a storage bag 13 is exhibited [it hangs it and] and sold.

[0014] As shown in drawing 2, drawing 3, and drawing 6, the package object 11 connects somewhat large rectangle-like superior lamella 11a and bottom plate 11b of size with one end plate 11c and two side plates 11d and 11e, is bending each plates 11a-11e at 90 degrees through a bend line 19, and is constituted from the recording paper 12 by thin box-like one.

[0015] As shown in drawing 4, one side of the shorter side side edge section of the package object 11 is opened, and let it be the feed opening 20. Moreover, the roller opening 22 into which the feed roller 21 by the side of a thermal printer (refer to drawing 9) enters is formed in superior lamella 11a and 11h (refer to drawing 6) of presser-foot plates so that the feed opening 20 may be followed.

[0016] Notches 23, 24, 25, 26, and 27 are formed in side plates 11d and 11e and end plate 11c. These notches 23-27 are formed so that superior lamella 11a and bottom plate 11b by which this is connected

with each side plates 11c-11e may be included.

[0017] As shown in drawing 3, notches 24, 26, and 27 are formed in the unsymmetrical location through the core P of the package object 11 among notches 23-27 on the basis of the center line CL 1 parallel to the supply direction of the recording paper 12. Moreover, notches 23 and 24 are formed in the unsymmetrical location on the basis of the center line CL 2 of the direction which intersects perpendicularly with said center line CL 1 through the core P of the package object 11.

[0018] Drawing 6 is the perspective view showing the expansion condition of the package object 11. The maintenance pieces 11f and 11g follow [side plates 11d and 11e] these side plates 11d and 11e through a bend line 19 further continuously at the both sides of superior lamella 11a through a bend line 19.

Moreover, end plate 11c follows the feed opening 20 and the shorter side of an opposite hand through a bend line 19. Bottom plate 11b follows this end plate 11c through the polygonal line 19. Moreover, 11h of presser-foot plates follows the shorter side by the side of feed opening of superior lamella 11a through the clinch line 30.

[0019] As shown in drawing 4, 11h of said presser-foot plates is bent by 180 degrees so that it may lap under the superior lamella 11a through the clinch line 30. Moreover, near the edge of the feed opening 20 and an opposite hand, a glue line 31 is formed in the superposition part of the maintenance pieces 11f and 11g and bottom plate 11b. The package object 11 is maintained by this glue line 31 at a core box.

[0020] Thus, the formed package object 11 is loaded with the recording paper 12 where a laminating is carried out. By this loading, 11h of presser-foot plates is energized so that the recording paper 12 located in the topmost part may be pressed down to the bottom plate 11b side. It will be mutually stuck by the contained recording paper 12 by this, that moisture etc. enters a thermal recording side decreases, and the moisture-proof effectiveness is acquired.

[0021] Moreover, it is arranged only at the feed opening 20 and the edge of an opposite hand by the die length of about $1/3 - 1/2$ of whole die length (long side die length), without arranging a glue line 31 all over the superposition part of the maintenance pieces 11f and 11g and bottom plate 11b. Therefore, as shown in drawing 9 explained later, corresponding to decrease of the recording paper 12, one half extent by the side of feed opening of a bottom plate 11 comes to be pushed up up by the movable bottom plate 57.

[0022] Drawing 1 and drawing 7 are the perspective views showing the sheet paper cassette 40 loaded with the detail-paper package 10. It consists of a body 41 of a cassette, and a lid 42, and the whole is formed in thin box-like one so that a sheet paper cassette 40 may build in the detail-paper package 10.

[0023] A lid 42 is attached in the body 41 of a cassette through the mounting shaft 43 free [closing motion] at the include angle of 90 degrees. And as shown in drawing 1, the package loading section 44 is loaded with the detail-paper package 10 in the state of open [to which the lid 42 stood up]. Moreover, according to the closed state according to which a lid 42 becomes level, as shown in drawing 8, this closed state is maintained because the stop pawls 45 and 46 stop. When opening a lid 42, by pushing the stop discharge plate 47, a stop of the stop pawls 45 and 46 is canceled and disconnection of a lid 42 is attained. For this reason, the stop discharge plate 47 is attached in the bottom plate 48 through mounting shaft 47a free [migration in the feed direction of the recording paper]. And the stop discharge plate 47 is energized in the stop direction by coil-spring 47b.

[0024] As shown in drawing 1, it can be easily loaded now with the package loading section 44 by being formed somewhat more greatly than the detail-paper package 10. Moreover, the guide projections 50, 51, 52, 53, and 54 are formed in the bottom plate 48 of the loading section 44 in the location corresponding to said notches 23-27. The guide projections 50-54 consist of rectangle objects, and the guide side 55 is formed in the upper bed. The guide side 55 consists of sloping fields, and it is made for the guide projections 50-54 to enter smoothly in a notch 23-27 through this guide side 55.

[0025] When the detail-paper package 10 is set to the loading section 44 in a normal location, the guide projections 50-54 enter in each notch 23-27, and loading of the detail-paper package 10 is permitted. Moreover, if the detail-paper package 10 is set to the loading section 44 where right and left and order are made into reverse, since the location of each notches 23-27 and the guide projections 50-54 does not suit, it turns out immediately that it is loading which it becomes impossible to have inserted the detail-paper package 10, and was mistaken. In this case, the package loading section 44 can be loaded with the detail-paper package 10 in a normal location by changing and re-loading with the sense of the detail-paper package 10 so that the location of notches 23-27 and the guide projections 50-54 may suit.

[0026] Four guide projections 50-53 located in right and left are made into 1 set by right and left. As shown in drawing 10, distance W1 between these 1 sets of medial surfaces of the guide projections 50 and 52 and the guide projections 51 and 53 is slightly enlarged rather than the width of face of the

recording paper, it is that the recording paper 12 enters between these 1 sets of guide projections 50 and 52, and the guide projections 51 and 53, and the recording paper 12 is positioned within the package object 11 by the longitudinal direction (direction which intersects perpendicularly in the feed direction). If it is loaded with the detail-paper package 10 into a sheet paper cassette 40 even if the package object 11 is loosely loaded with the detail paper 12, it will be automatically positioned towards intersecting perpendicularly in the feed direction of the detail paper 12 by these guides projections 50, 52, 51, and 53. Therefore, the recording paper 12 carrying out a skew and paper not being fed to it, and an image being recorded aslant or getting the recording paper 12 blocked is lost.

[0027] As shown in drawing 8, the recording paper 12 is positioned in the feed direction within the package object 11 by the guide projection 54 formed in the feed opening 60 and an opposite hand. Therefore, if the detail-paper package 10 is set to a sheet paper cassette 40 even if it is loosely loaded with the detail paper into the package object 11, the detail paper 11 will be automatically positioned in the feed direction.

[0028] The movable bottom plate 57 is formed in some bottom plates 48 of the package loading section 44, and as shown in drawing 8, it is attached in the bottom plate 48 rotatable through the mounting shaft 58. The movable bottom plate 57 is energized up with the coil spring 59, and pushes up bottom plate 11b of the package object 11 in the detail-paper package 10 up.

[0029] Where a lid 42 is closed, near said mounting shaft 43, the clearance is formed between the body 41 of a cassette, and the lid 42, and the feed opening 60 is constituted by this clearance. The recording paper presser-foot plate 61 is attached in the feed path near the feed opening 60 through mounting shaft 61a at the lid 42. This presser-foot plate 61 bends a leaf to a wave, is constituted, and it is weakly energized so that the recording paper 12 may be pressed down by bending section 61b to the feed path by the side of the body 41 of a cassette.

[0030] Bending section 61b is prepared before and behind the feed direction focusing on mounting shaft 61a. And in order that this bending section 61b may contact the body side of a cassette with spring nature, the feed opening 60 is closed certainly. Thereby, trespass of dust etc. is prevented and also protection-from-light nature and dampproofing can be raised. And in order for two bending sections 61b to close by two places, even when the head of the recording paper passes, positive closeout is performed by bending section 61b which is always one side.

[0031] Moreover, the recording paper separation section 62 is projected and formed in the body 41 side of a cassette at the feed path near the feed opening 60, and the cork material 63 is stuck on the surface of this. Therefore, when the recording paper 12 laps and duplex delivery is carried out with this cork material 63 and the recording paper presser-foot plate 61, only the lower recording paper 12 stops by friction between the cork material 63, and paper is fed only to the upper recording paper 12. In addition, the recording paper may stick the cork material 63 only near the center section of the upper part of the recording paper separation section 62 this contacts although it has attached so that the whole surface may be covered mostly.

[0032] Furthermore, two separation projections 64 for preventing duplex delivery are detached and formed in the recording paper separation section 62. This separation projection 64 is stopped at the head of the recording paper of the bottom at the time of duplex delivery being carried out, and prevents that delivery.

[0033] As shown in drawing 9, the roller opening 65 is formed in the lid 42 of a sheet paper cassette 40 in the location corresponding to the roller opening 22 of the detail-paper package 10. When a sheet paper cassette 40 is set to a thermal printer 75 by this roller opening 65, the feed roller 21 enters and this feed roller 21 contacts the detail paper 12 of the maximum upper layer of the detail-paper package 10. The feed roller 21 rotates in the feed direction in the case of a print. This pulls out only the detail paper 12 of the maximum upper layer from the detail-paper package 10, and paper is fed to the print stage of a thermal printer 75.

[0034] As shown in drawing 7 and drawing 9, the top face of the lid 42 of a sheet paper cassette 40 serves as the paper output tray, and for this reason, the recording paper guides 66 and 67 and a stopper 68 project on a lid 42, and it is established in it. The recording paper guides 66 and 67 guide the both sides of the recording paper 12, and are formed for a long time along the long side of a lid 42. A stopper 68 stops the head of the recording paper 12, and prevents omission from a lid 42.

[0035] Recording paper residue display 70 [a total of] is formed in the stopper 68. This recording paper residue display 70 [a total of] is formed in the stopper 68 in the feed opening 60 and an opposite hand, and the residue (the remaining number of sheets) of the recording paper 12 is expressed as a graduation.

[0036] As shown in drawing 10, recording paper residue display 70 [a total of] consists of residue

display graduations 71 and 72 and an indicator 73 which directs graduations 71 and 72. The directions sections 73a and 73b which direct each graduations 71 and 72 are formed in the upper part of an indicator 73. Moreover, ahead [of the directions sections 73a and 73b], transparence plate 68a which consists of an ultraviolet-rays cut-off filter is arranged so that the directions sections 73a and 73b can be checked from the outside. Thereby, trespass into the sheet paper cassette 40 of the fixation light which affects the coloring property of the thermal recording side of a thermographic recording paper 12 is prevented.

[0037] The indicator 73 is arranged free [migration in the thickness direction of the recording paper 12] within the stopper 68. And he is trying for soffit 73c of an indicator 73 to be contacted by the recording paper 12 of the maximum upper layer through a notch 27 with a self-weight, where a lid 42 is closed.

[0038] It is arranged at right and left of an indicator 73, the right-hand side graduation 71 has become regular papers, and graduations 71 and 72 display even "20" - "empty." The left-hand side graduation 72 is used as the thick recording papers of a seal print etc., and displays even "10" - "empty."

[0039] Drawing 11 is the perspective view showing the thermal printer 75 in the condition of having been loaded with the sheet paper cassette 40. The opening 77 of a sheet paper cassette 40 is formed in the front face 76 of a thermal printer 75, and a sheet paper cassette 40 is inserted in this. If a sheet paper cassette 40 is set to an opening 77, as shown in drawing 9, the feed roller 21 will enter in the roller opening 65 of a lid 42. Moreover, since the recording paper 12 in a sheet paper cassette 40 is energized up by the movable bottom plate 57, it is made for the recording paper 12 of the maximum upper layer to always be contacted by the feed roller 21. In addition, the sign 83 in drawing is a click stop member which prevents omission from the thermal printer of a sheet paper cassette 40.

[0040] The control panel 78, the liquid crystal display 79, the IC card insertion opening 80, the insertion opening 81 of SmartMedia, and the electric power switch 82 other than an opening 77 are formed in the front face 76. If a control panel 78 is operated and print actuation is directed, the image for a print will be displayed on a liquid crystal display 79. A print will be started, if the print key of a control panel 78 is operated after checking this.

[0041] On the occasion of a print, the feed roller 21 rotates in the feed direction first, only the detail paper 12 of the maximum upper layer of the detail-paper package 10 in a sheet paper cassette 40 is pulled out, and paper is fed in a printer 75. Sequential record is performed on the recording paper 12 to which paper was fed by the thermal head 3 color plane as everyone knows. This record of one line is performed at a time, and it drives corresponding to the pixel which each heater element of a thermal head records synchronizing with delivery of the recording paper 12. And an optical corresponding fixation lamp is turned on and optical fixation is performed so that it may not color, in case a sensible-heat coloring layer [finishing / record] is heat record of the following layer. After ending sequential record 3 color planes, as shown in drawing 9, the recording paper 12 is discharged on the lid 42 of a sheet paper cassette 40 with the delivery roller 74, and a print ends it.

[0042] In loading a sheet paper cassette 40 with the detail-paper package 10, a sheet paper cassette 40 is taken out from the opening 77 of a thermal printer 75, and as shown in drawing 1, it opens a lid 42. When the empty package object 11 is in close, it loads with the detail-paper package 10, after taking this out. In this case, if it loads with the detail-paper package 10 as the location of each notches 23-27 of the package object 11 and the guide projections 50-54 of the package loading section 44 is doubled, the detail-paper package 10 will be set to the package loading section 44 in a normal location because the location of each notches 23-27 and the guide projections 50-54 suits and the guide projections 50-54 enter in each notch 23-27.

[0043] Moreover, if it is going to load the loading section 44 with the detail-paper package 10 where right and left and order are accidentally made into reverse, since the location of each notches 23-27 and the guide projections 50-54 does not suit, loading of the detail-paper package 10 becomes impossible, and it turns out simply that it is loading with the mistaken sense. Therefore, giving a damage to the heater element array of the futility of the detail paper 12 or a thermal head by loading which loading in the condition of having made detail-paper package 10 right-and-left-order into reverse is not performed, and was mistaken is lost.

[0044] And in case the detail-paper package 10 is inserted in the loading section 44, the guide projections 50-54 by the side of the loading section 44 enter in each notch 23-27. While the edge of the recording paper 12 is pushed by the medial surface of the guide projections 50-54 and being arranged by this, it is positioned in a feed location. Therefore, even if it is loosely loaded with the detail paper 12 into the package object 11, after ending loading of the detail-paper package 10, each edge is arranged by the guide projections 50-54, and the detail paper 12 is automatically set to a feed location.

[0045] If the recording paper 12 runs short as shown in drawing 9, bottom plate 11b of the package

object 11 will be raised up by the movable bottom plate 57. Moreover, 11h of presser-foot plates presses down the recording paper 12 of the maximum upper layer caudad. Therefore, since it is mutually stuck to these recording papers, and is moreover loaded with the thermal recording side toward the bottom and the laminating of the protection sheet 12a is carried out to the recording paper 12 bottom of the lowest layer even if the recording paper 12 runs short, that air contacts decreases in a thermal recording side, and neither dampproofing nor protection-from-light nature falls to it. Moreover, in order that a bottom plate may carry out movable to the upper part according to the activity of the recording paper, without forming opening in a bottom plate, dust does not enter from opening and neither dampproofing nor protection-from-light nature falls.

[0046] Furthermore, when changing the class of recording paper 12 into the thick recording paper for a seal print, for example from an ordinary thermographic recording paper, exchange of a recording paper package is performed. In this case, it loads with the new detail-paper package 10, after removing a sheet paper cassette 40 from a thermal printer 75, opening a sheet paper cassette 40 and taking out a detail-paper package in use, as shown in drawing 11.

[0047] As shown in drawing 9 at this time, since, as for the detail-paper package taken out from the sheet paper cassette 40, 11h of presser-foot plates is pressing the detail paper 12 in the direction of bottom plate 11b even when there is little remainder of that detail paper, the detail paper 12 is pinched by 11h of presser-foot plates, and bottom plate 11b. Therefore, the recording paper 12 is not omitted from the package object 11. In addition, this taken-out detail-paper package 10 is put in by the storage bag 13 shown in drawing 5 R> 5, is that a fastener 15 is closed and is saved in the state of moisture proof and protection from light.

[0048] Although the roller opening 65 into which the feed roller 21 enters was formed in the lid 42 with the above-mentioned operation gestalt, as it replaces with this and is shown in drawing 12, the feed roller 92 may be formed in the lid 91 of a sheet paper cassette 90, and this feed roller 92 may be rotated from a thermal printer side through actuation gear 92a. In this case, since the roller opening 65 is not formed as shown in drawing 7, dampproofing and protection-from-light nature can be raised further. In addition, although the thing of a graphic display constituted the feed roller 92 from one body of a roller, it is good also considering the skewer form roller which detached and prepared the body of a roller with two or more narrow width of face in the mounting shaft as a feed roller. Dampproofing and protection-from-light nature can be further raised by arranging airtight sponge into the doubling part of the body of a cassette, and a lid especially.

[0049] Although formed in the almost same magnitude, the body 41 of a cassette and a lid 42 may constitute a lid 93 from an above-mentioned operation gestalt so that some bodies 94 of a cassette may be covered, as shown in drawing 13 R> 3. Also in this case, a lid 93 is attached in the body 94 of a cassette free [closing motion] through the mounting shaft 95, a hinge region, etc. And the roller opening 65 is formed in the body 94 side of a cassette. Moreover, as shown in drawing 14, you may constitute also from a type with a built-in feed roller so that some bodies 97 of a cassette may be covered with a lid 96. In this case, the feed roller 98 is formed in the body 97 side of a cassette.

[0050] With the above-mentioned operation gestalt, although it loaded with the detail paper 12 into the sheet paper cassette 40 using the detail-paper package 10, the detail paper 12 may be directly set to the loading section 44, without using the package object 11.

[0051] With the above-mentioned operation gestalt, although this invention is carried out to a thermographic recording paper, the detail paper of a sublimation mold or a thermofusion mold may be contained in a detail-paper package, for example, without being limited to this.

[0052]

[Effect of the Invention] According to this invention, since a recording paper energization means to energize the recording paper was formed in the feed roller side, the condition that both the recording papers by which the laminating was carried out stuck is maintained. Therefore, even if feed roller insertion opening is formed, it is prevented by carrying out and turning the laminating of the recording surface of each recording paper down that moisture does not enter between each recording paper and a recording surface becomes damp. Moreover, a recording surface is not put to light. Thereby, change of a coloring property can be suppressed.

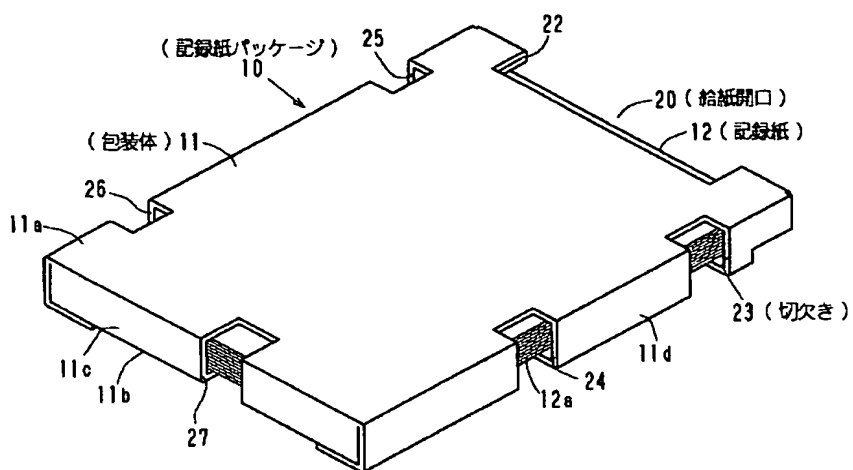
[0053] It is not necessary to feed paper by opening a lid, and loading to the printer of a sheet paper cassette becomes easy by [which make a feed roller contact the recording paper of the maximum upper layer from roller opening prepared in the lid] depending especially or making a feed roller build in in a sheet paper cassette. Furthermore, by making a feed roller build in a sheet paper cassette, roller opening can become unnecessary and dampproofing and protection-from-light nature can be raised further.

[0054] Dampproofing and protection-from-light nature can be raised by arranging a protection-from-light member to a lid side within feed opening, constituting a protection-from-light member from an elastic plate bent in the shape of a wave, making the bending section of an elastic plate contact the body side of a cassette, and closing feed opening. Moreover, since the multiplex delivery inhibition member which the head of the recording paper after the 2nd sheet contacts from the maximum upper layer was prepared, paper is fed only to the recording paper of the maximum upper layer, and generating of multiplex delivery of the recording paper is suppressed.

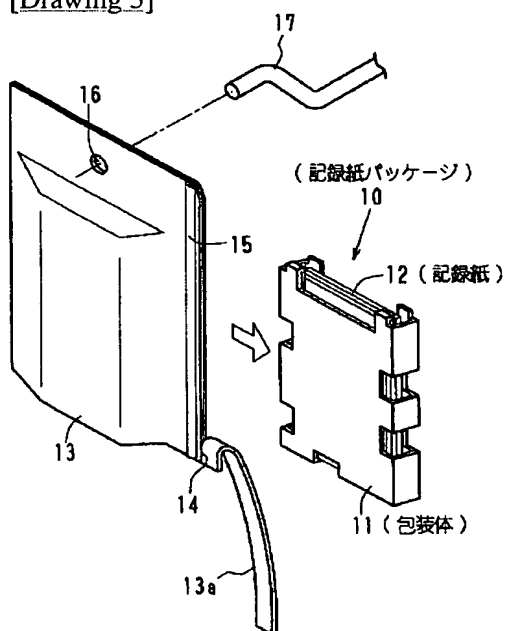
[0055] By using the detail-paper package which carried out the laminating of the detail paper and was contained on the package object, loading of the detail paper becomes easy. And since it is avoided that a finger etc. contacts a recording surface directly, poor record does not occur. Furthermore, the edge of the bottom plate of a package object is raised, it constitutes free, both the recording papers by which paper could be certainly fed to the last one sheet with the recording paper energization means since the recording paper was energized to the feed roller side, and also the laminating was carried out stick, a clearance does not occur in a recording surface, and dampproofing and protection-from-light nature are secured.

[0056] A package object is made into the core box formed with the superior lamella, the bottom plate, the end plate, and the side plate. Around this package object When form the notch which attains to a superior lamella and a bottom plate, a package object is made larger than said recording paper, the recording paper is loosely contained to the package inside of the body and the loading section is loaded with a package object By preparing the guide member inserted into this notch in the loading section, and positioning the recording paper by this guide member, the recording paper can be certainly set to a feed location, and the skew of the recording paper is prevented. And since what is necessary is just to insert the detail paper in a package object loosely, manufacture of a detail-paper package becomes easy.

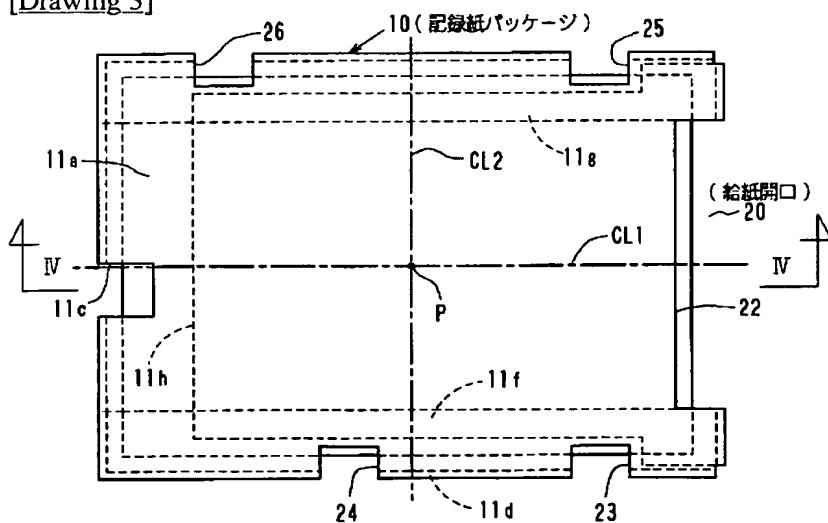
[Translation done.]



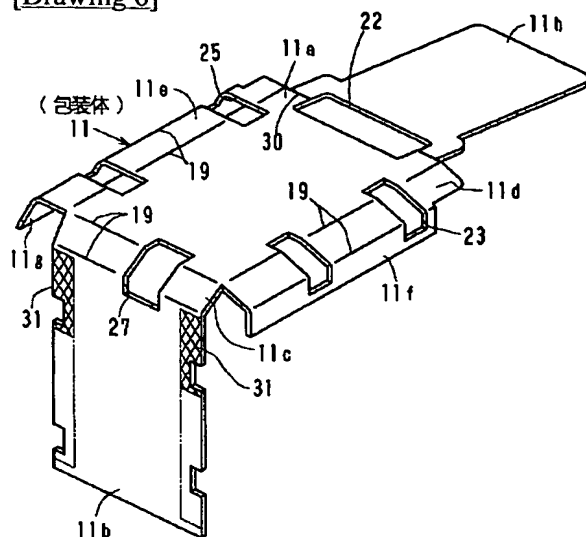
[Drawing 5]



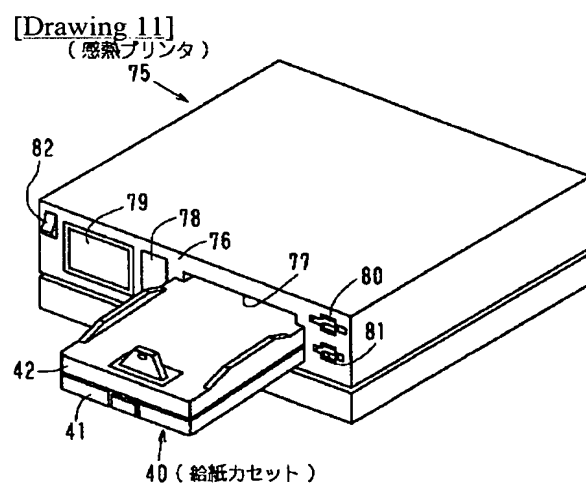
[Drawing 3]



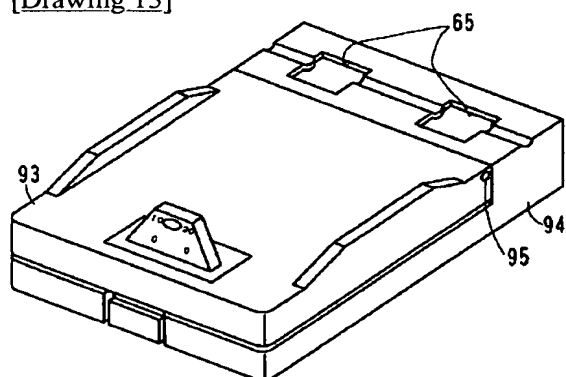
[Drawing 6]



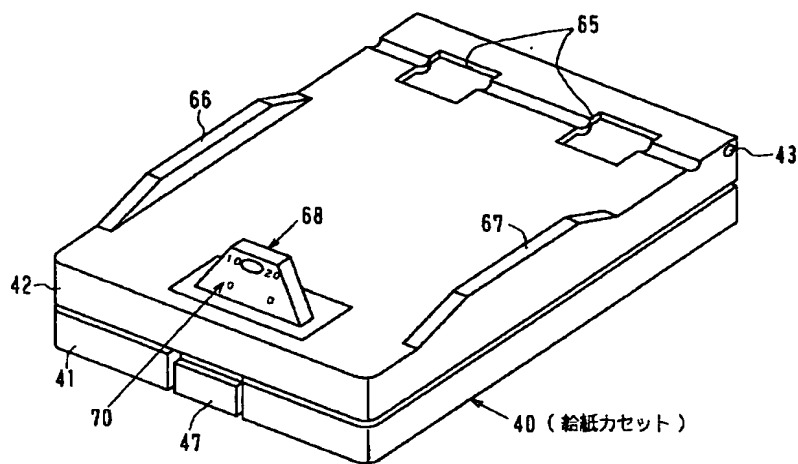
[Drawing 11]



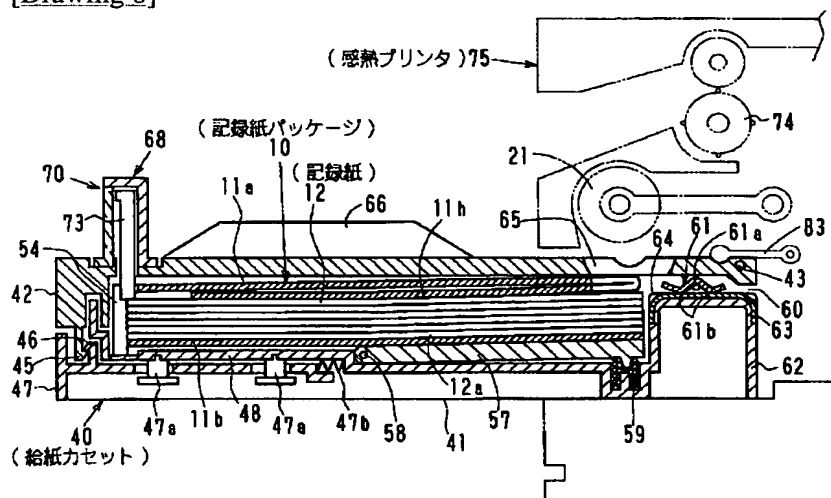
[Drawing 13]



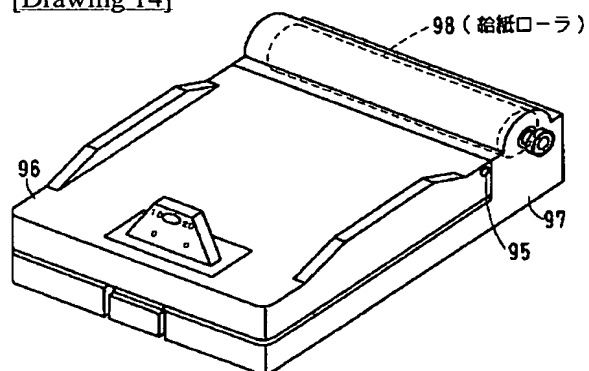
[Drawing 7]



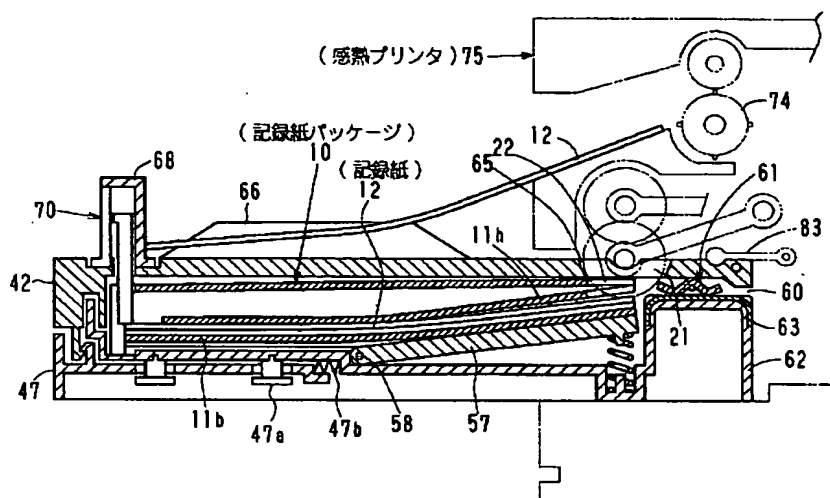
[Drawing 8]



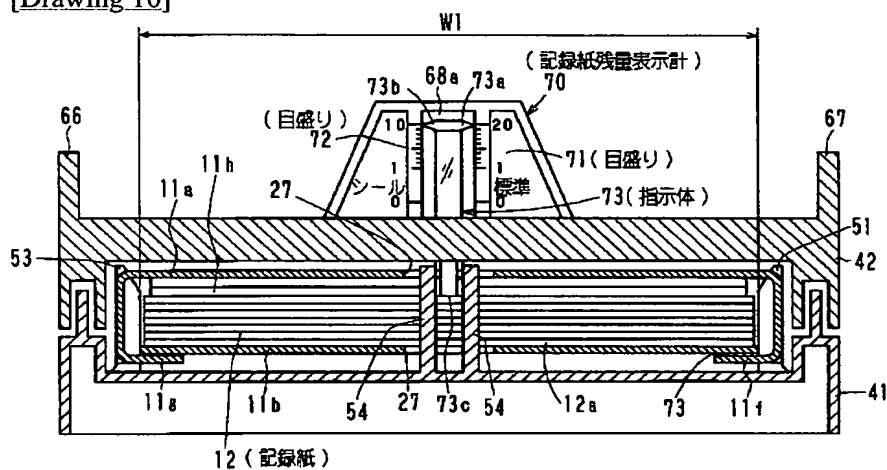
[Drawing 14]



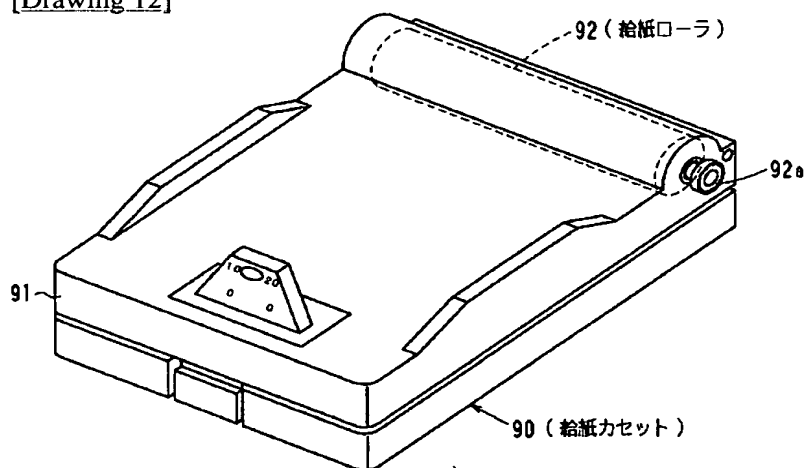
[Drawing 9]



[Drawing 10]



[Drawing 12]



[Translation done.]